

PF 040045

**Manufacture of semi-circular disc monopole antenna for digital terrestrial television, recesses then metallizes plastic block in form of required antenna shape**

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**Inventor(s):** THUDOR FRANCK; PINTOS JEAN FRANCOIS;  
MOCQUARD OLIVIER; ROBERT JEAN LUC; NICOLAS  
CORINNE +

**Applicant(s):** THOMSON LICENSING SA [FR] +

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H01Q9/04; (IPC1-7): H01Q15/00

- European: H01Q1/38; H01Q19/09; H01Q9/40

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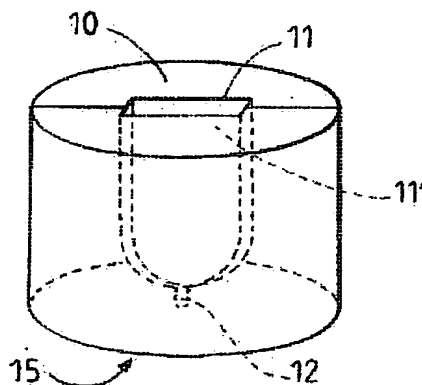
**Priority number(s):** FR20030001034 20030130

**Cited documents:**

- EP1189305 (A2)
- FR2299736 (A1) ✓
- US2002057226 (A1) ✓
- US5854970 (A)
- EP0986132 (A2)

**Abstract of FR 2843239 (A1)**

A plastic block (10) is recessed in the required antenna shape (11), which is then metallized. The plastic has a permittivity of up to 1.6. The loss tangent (tan delta) is up to 0.002. Using two blocks of plastic which can be held or adhered together, an internal face is recessed by molding or machining in the shape of the antenna. The blocks are assembled and the recess is metallized. A continuation (12) of the recess permits insertion of a connector. The underside (15) is metallized, forming an earth plane.



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# **Integration of hollow waveguides, channels and horns by lithographic and etching techniques**

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**Inventor(s):** KOH PHILIP J [US]; CROWE THOMAS W [US]; BISHOP WILLIAM L [US]; HESLER JEFFREY L [US]; WEIKLE ROBERT M [US]; MANN CHRIS [GB]; MATHESON DAVID [GB] +

**Applicant(s):** UNIV VIRGINIA [US] +

**Classification:**

- **International:** **H01Q1/38; H01Q13/02; H01Q1/38; H01Q13/00; (IPC1-7): H01Q13/00**

- **European:** H01Q1/38; H01Q13/02H

**Application number:** US20010988203 20011119

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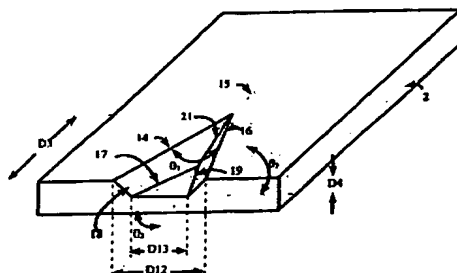
Also published as:

US6323818 (B1)

US 632818  
Eq of  
FR 2843239

## **Abstract of US 2002057226 (A 1)**

A millimeter or submillimeter wavelength device including a substrate having a horn shaped cavity, and first and second extension layers formed on a top surface of the substrate adjacent to the horn shaped cavity. The first and second extension layers define additional opposed sides of the horn shaped cavity, channels, and walls of the waveguide. Internal surfaces of the horn shaped cavity, the channels, and the waveguide walls include a conductive layer. Two such structures, which are mirror images of each other, are joined to form a horn antenna with integrated channels and a waveguide. The device is fabricated by forming a resist layer on a substrate which includes a horn shaped cavity. The resist layer is etched to form a half horn antenna, channels and walls of a waveguide. Internal surfaces of the half horn antenna, the channels, and the walls of the waveguide are then metalized. Two such metalized structures are then joined to form a full horn antenna integrated with channels and a waveguide.



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